

### ABSTRACT

Sharp safe hydraulic retractable syringe that is supplied with a hypodermic needle (4) fully housed within an elongated hollow barrel (2) which cannot be used until the plunger rod stop (16) has been removed and the plunger rod (1) has been pushed into the loading position to receive the required liquid into the elongated hollow barrel (2).

The hydraulic retractable syringe assembly is preceded by a retractable mechanism (6-15) that is pre-assembled. The mechanism is contained by a three-legged retaining clip (11) to hold twin conical helical shape springs (14-14d) separated by a spring separation plate (15) within two spring retaining cups (12-13).

Twin conical shape springs are released by the hydraulic pressure exerted by the liquid onto the activating ring with three moulded pistons (8) which passes through a sealing member (9) and exerts axial pressure onto the three release slides (10a, 10b, 10c) to introduce radial pressure onto the three-legged clip (11) to release the conical spring pressure placed onto two spring retaining cups (12-13) causing the twin conical helical shape springs (14-14d) to be set apart and retract up into the elongated hollow barrel. The three-legged retaining clip (11) has two of its three legs preset so as to force the spring separating

plate (15) against the hypodermic needle (4) causing the hypodermic needle (4) to misalign and thereby rendering the sharp safe hydraulic retractable syringe non-functional for reuse.

This invention can be incorporated into any syringe.

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